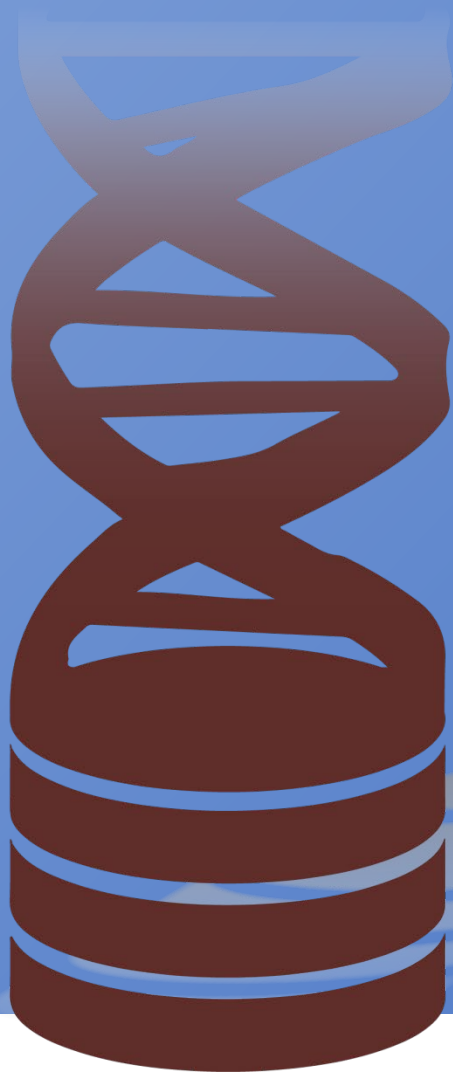


ANNUAL REPORT

2020/2021, 2021/2022 &
2022/23



National DNA Data Bank
Advisory Committee



Royal Canadian Mounted Police
Gendarmerie royale du Canada

Canada

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INTRODUCTION



In 2020, the National DNA Data Bank (NDDB) celebrated an important milestone - its 20th anniversary. Similarly, the NDDB Advisory Committee has been in existence for over 20 years. Established pursuant to the *DNA Identification Act* and the *DNA Identification Regulations*, the Advisory Committee's mission remains unchanged - to provide sound advice and recommendations on all matters related to the effective and efficient operation of the NDDB. Although membership has changed over the years, with the exception of Drs. Ron

Fourney and Frederick Bieber who continue to be invaluable contributors since the first meeting held in 2000, the Advisory Committee remains committed to ensuring that the NDDB remains an essential tool for police investigations that help protect Canadians from violent crimes and exonerate innocent individuals while contributing to the effective administration of justice and the safety of Canadians. As Charter members of the Advisory Committee Dr. Fourney and Dr. Bieber have been instrumental in advancing the work of the committee and providing continuous professional guidance for over 22 years.

This report contains updates and topics of interest that have been reviewed and discussed by members of the National DNA Data Bank (NDDB) Advisory Committee over the past three years. In response to the pandemic and the inability to conduct bi-annual meetings in person, the NDDB Advisory Committee shifted to an entirely virtual setting from 2020 to 2023, conducting their meetings using the Microsoft Teams platform. They were provided updates on the operations and performance of the NDDB, including statistical data, ongoing activities, initiatives and challenges. Members also benefitted from presentations from the Canadian Criminal Real Time Identification Services (CCRTIS) and Strategic Policy and Integration (SP&I) on initiatives and research in their respective areas that impact the NDDB, including various updates regarding recommendations on Familial Searching and DNA upon conviction previously put forth by the Advisory Committee. The Committee looks forward to resuming the bi-annual in-person meetings beginning with the spring meeting in June of 2023.

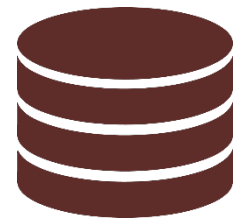
Throughout the years, the Advisory Committee received updates on the National Missing Persons DNA program, which became operational in March 2018 following the passage of legislation, regulations, and the development of operational policy related to missing persons and unidentified human remains investigations. Committee members examined the ethical challenges, privacy, and consent issues in genetics, which have been the subject of debate as it relates to missing persons and their families. The exploration of evolving technology related to

DNA (e.g. Rapid DNA, Next Generation Sequencing) provided the Committee with insight into current applications and future use of the science as it relates to public safety.

Another continuous, key focus of the Advisory Committee relates to familial searching in Canada within the context of the NDDB. This issue has been a matter of interest to the committee for several years and is one that they will continue to actively profile and support. The Advisory Committee presented to the RCMP Senior Executive Committee on familial searching and made recommendations that are described later in this report. Advisory Committee members are also applying their expertise on the topic of forensic genetic genealogy in Canada (not to be confused with familial searching). Committee members recognize its potential use and major advantage for case investigations but also understand associated issues regarding privacy and personal information. The Advisory Committee provided formal feedback to the RCMP with respect to the development of the Investigative Genetic Genealogy Technique (IGGT) policy following a presentation to the committee by the RCMP's Contract and Indigenous Policing (C&IP).

In addition, considerable discussion took place regarding the introduction of Bills S-236 and S-231, *An Act to amend the Criminal Code, the Criminal Records Act, the National Defence Act and the DNA Identification Act*. This matter is addressed further in this report along with key issues and highlights stemming from different presentations and their potential impact on the NDDB.

ABOUT



THE NATIONAL DNA DATA BANK

The NDDB was established pursuant to the DNA Identification Act and commenced operations in June 2000, under the stewardship of the RCMP, on behalf of the Government of Canada.

The NDDB has historically been comprised of two indices:

- The Convicted Offenders Index (COI) is an electronic index of DNA profiles collected from offenders convicted of designated primary and secondary offences identified in Section 487.04 of the *Criminal Code*, which includes certain offences in the *Controlled Drugs and Substances Act*.
- The Crime Scene Index (CSI) is a separate electronic index composed of DNA profiles developed by Canada's operational forensic laboratories from crime scene investigations of the same designated offences addressed in the *Criminal Code*.

The NDDB supports the law enforcement and criminal justice communities by:

- Linking crimes together where there are no suspects (CSI to CSI match)

- Helping to identify suspects (CSI to COI match and/or CSI to CSI match)
- Eliminating/exonerating suspects (no match between crime scene DNA (CSI) and COI profile in the NDDB)
- Determining whether a serial offender is involved

New indices

In March 2018, legislative amendments to the DNA Identification Act and related regulations came into force, which created three new indices within the NDDB that support humanitarian investigations involving missing persons and unidentified human remains:

- Missing Persons Index (MPI)
- Relatives of Missing Persons Index (RMI)
- Human Remains Index (HRI)

Two additional DNA indices were created that support criminal investigations and investigations involving missing persons or human remains:

- Victims Index (VI)
- Voluntary Donors Index (VDI)

NATIONAL MISSING PERSONS DNA PROGRAM

The amended legislation in 2018 supports investigations of missing persons and unidentified human remains through the National Missing Persons DNA Program (NMPDP). This program represents a collaboration of the RCMP National Centre for Missing Persons and Unidentified Remains (NCMPUR) with the scientific, technical and forensic expertise of the NDDB for DNA analysis and reporting. Legislation and regulations governing the NMPDP protect Canadians' privacy interests and ensure that DNA profiles in the NDDB are used for their intended purpose.

Prior to the introduction of the new indices and creation of the NMPDP, the Advisory Committee examined the potential humanitarian, scientific, privacy and law enforcement principles (including legal, ethical, governance and policy issues). The Advisory Committee continues to follow the development and performance of the program with routine updates provided at their bi-annual meetings.

20TH ANNIVERSARY

On June 30, 2020, the NDDB celebrated its 20th anniversary. At the beginning, it took more than three years to get 1,000 DNA matches. Today 1,000 DNA matches are made on average every three months or less. Over the past 20 years, DNA technology and innovation has evolved and

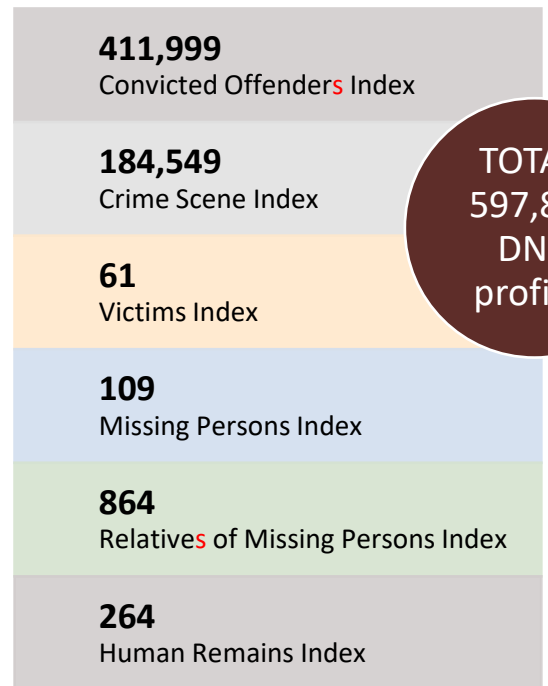
shaped the way many investigations are conducted and used as a trusted form of identification in criminal proceedings. With more than half a million DNA profiles in the criminal indices, the National DNA Data Bank has matched 85,344 DNA profiles over the past years.

NDDB BY THE NUMBERS

As of March 31, 2023, the NDDB contained 650,260 DNA profiles in the Criminal Indices, and 2,155 DNA profiles in the Humanitarian Indices. Due to the global pandemic, the volume of submissions throughout the last two years was impacted and significantly disrupted partner contributions and the NDDB's ability to provide services at full capacity. In spite of the impact of the pandemic, the overall growth in both offender and forensic hits since the NDDB's creation has contributed significantly to public safety over the years.

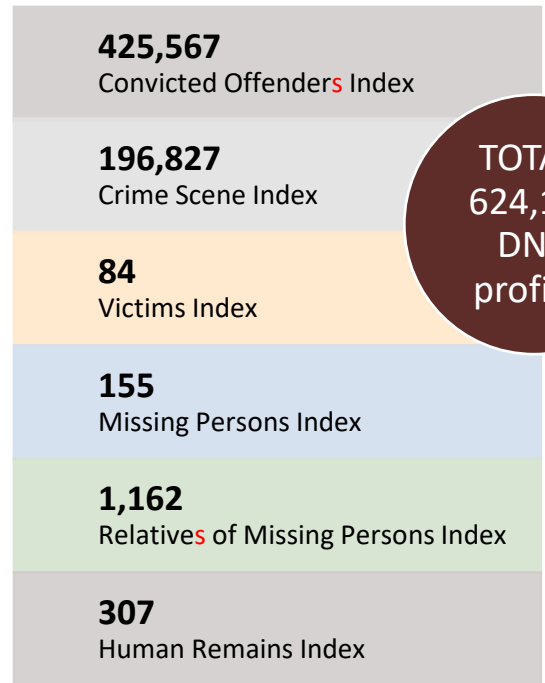
2020/2021

In the 2020/21 fiscal year, there were 3,971 offender hits (convicted offender to crime scene) and 356 forensic hits (crime scene to crime scene) for a total of 4,327 hit associations made by the NDDB to police investigations. This data does not reflect or capture the number of eliminated suspects or police investigations refocused when no match took place. In addition, in the fiscal year 2020/2021, the NDDB recorded four hits to the Victims Index and nineteen hits to the Human Remains Index.



2021/2022

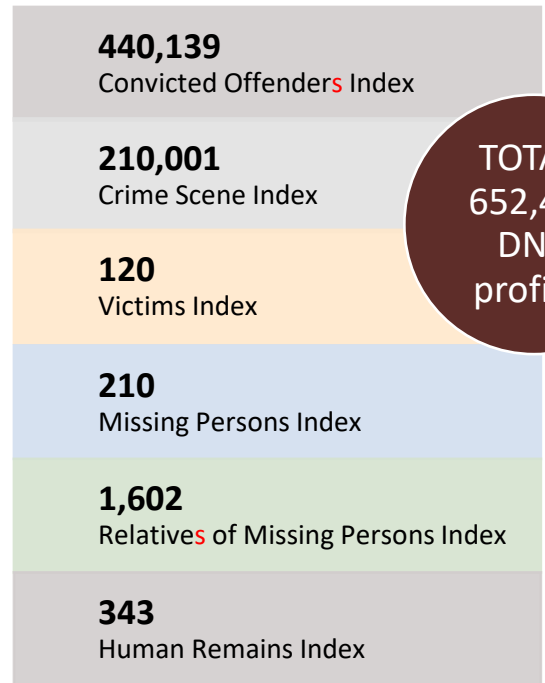
In the 2021/22 fiscal year, there were 5,031 offender hits (Convicted Offender to Crime Scene) and 591 forensic hits (Crime Scene to Crime Scene) for a total of 5,622 hit associations made by the NDDDB to police investigations. This data does not reflect or capture the number of eliminated suspects or police investigations refocused when no match took place. In addition, in the fiscal year 2021/2022, the NDDDB recorded no hits to the Victims Index and fifteen hits to the Human Remains Index.



2022/2023

In 2022-2023, the Convicted Offenders Index increased by 14,572 profiles and the Crime Scene Index increased by 13,174 profiles, bringing the total number of profiles in these indices to 440,139 convicted offender DNA profiles and 210,001 crime scene DNA profiles (June 30, 2000 through March 31, 2023). The NDDDB also contains 120 DNA profiles in the Victims Index. These have resulted in 76,806 DNA hits between convicted offenders and crime scenes, 8,538 DNA hits that linked crime scenes through a common DNA profile and 10 DNA hits to the Victims Index.

In addition, the Data Bank contains 210 profiles in the Missing Persons Index, 1,602 profiles in the Relatives of Missing Persons Index, and 343 profiles in the Human Remains Index. The 2,155 DNA profiles contained in the Humanitarian Indices have resulted in 67 DNA hits assisting in the identification of a missing person.



NDDB ANNUAL REPORT

Each year the NDDB prepares an annual report to Parliament. It provides a snapshot of the year's operations and activities, which is fundamental in understanding the pace and growth of the database. The report is also an important resource that describes real examples of how samples processed from crime scenes can either link or rule out a suspect. A number of true stories are illustrated each year that showcase just some cases where DNA has been instrumental in shaping the course of an investigation.



NDDB ADVISORY COMMITTEE

The National DNA Data Bank Advisory Committee was created pursuant to the DNA Data Bank Advisory Committee Regulations on May 4, 2000. Established at the request of Parliament, the committee members are appointed by the Minister of Public Safety and Emergency Preparedness and the Committee functions as an independent body to assist the Commissioner of the RCMP in ensuring the NDDB operates in compliance with legislation and regulations. The Advisory Committee's role is also to provide the NDDB with strategic guidance and direction concerning scientific advancements, matters of law, legislative changes, privacy issues, and ethical practices.

MEMBERS OF THE NDDB ADVISORY COMMITTEE 2020-2023

The members of the NDDB Advisory Committee are listed below.

Brendan Heffernan

Chairperson

**Retired Chief Superintendent,
RCMP**

Police Community Representative

As a former senior executive of the RCMP's Forensic Sciences and Identification Services, Brendan Heffernan devoted over 33 years of service to Canadians. Starting as general duty uniformed officer, he went on to become a major crime investigator and police executive. He has maintained a growing number of partnerships in the private and public sector, including professional stakeholder relations with municipal police, the Canadian Forces Military Police and the RCMP. Mr. Heffernan provides both valuable "front line" police experience and an understanding of forensic evidence practices.

Derrill Prevett, K.C.

Vice-Chairperson

Legal Expert

Mr. Prevett has 37 years of legal experience and has prosecuted complex homicide cases where DNA was used as the sole evidence identifying the perpetrators. He was a senior prosecutor for R. v. Pickton, one of Canada's largest, most complex, serial murder, legal cases involving forensic DNA evidence. He has also served on national committees where he was responsible for ensuring consistent implementation of DNA legislation and making recommendations to Parliament regarding the NDDB.

**Dr Michael Szego Ph.D.,
MHSc.**

Director, Centre for Clinical Ethics,
Unity Health Toronto

As an expert in the field of clinical ethics, Dr Szego has led a number of research studies and published several peer-reviewed journal articles. He is the ethics lead for the Committee and participant in the Personal Genome Project Canada. He has experience in clinical ethics consultations, policy development, research ethics review, research, and teaching. Dr Szego is an assistant professor and a member of the Joint Centre for Bioethics at the University of Toronto.

**Sue O’Sullivan
B.A., O.O.M**

Human Rights Specialist

Ms. O’Sullivan retired from over 30 years in policing as the Deputy Chief of Ottawa Police Service. During that time, she was an advocate for victims of crime and promoted the need for safe and healthy communities. Ms. O’Sullivan comes to the Advisory Committee following two terms as Canada’s Federal Ombudsman for Victims of Crime. In 2006, her Excellency the Governor General of Canada appointed her an Officer of the Order of Merit of the Police Forces.

**Dr. Frederick Bieber
Ph D.**

Associate Professor of Pathology,
Harvard University, Boston

Dr. Bieber is a medical geneticist and specialist in bio-medical ethics. His extensive background in genetics research has led to him serving on numerous DNA forensic committees setting the standard for DNA analysis. In June 2018, Dr. Bieber was honored by an appointment by HRH Queen Elizabeth II to the Venerable Order of St. John for his humanitarian forensic work.

**Dr. Ron Fourney
Ph D., O.O.M.**

Director, Science and Strategic
Partnerships, Forensic Science
and Identification Services, RCMP

Dr. Fourney is a research scientist and a founding member of Canada’s forensic DNA program. As a civilian member of the RCMP since 1988, he has been instrumental in the development of forensic DNA typing for Canada including the implementation of the National DNA Data Bank and the National Missing Persons DNA Program.

Dr. Ben Koop, Ph D

Professor of Biology,
University of Victoria
Medical Genetics Expert

Dr. Koop is a distinguished academic holding a Masters in Science from Texas Tech University as well as a postgraduate doctoral degree in Molecular Biology and Genetics from the Wayne State University Medical School. He has enjoyed considerable success as a geneticist, with a history of leadership roles in several multidisciplinary, large-scale research projects, including the Human Genome Project.

**Lacey Batalov
B.A., M.A.**

Director, Government Advisory
Directorate
Office of the Privacy
Commissioner

Ms. Batalov has extensive experience in providing policy advice with a specialty in Privacy Impact Assessments. She joined the Office of the Privacy Commissioner in 2012 coming from Health Canada’s Strategic Policy Branch. Prior to her engagement in the federal public service Ms. Batalov was a political assistant with the City of Ottawa.

Note that Ms. Batalov was on leave from October 2021 to October 2022. The Office of the Privacy Commissioner designated Ms. Alexandra Foster to replace Ms. Batalov on the NDDB Advisory Committee during this time.

2020 – 2021 YEAR IN REVIEW

ADVISORY COMMITTEE MEETINGS

The total expense for the meetings held in fiscal year 2020-2021 was \$2,200.00

AUGUST 5, 2020

CONTRIBUTORS AND INVITED GUESTS

Royal Canadian Mounted Police

- A/Commissioner Philippe Thibodeau
- Jeff Modler
- Cynthia Taylor
- Insp. Maxime St-Fleur
- Tamara Brittain
- Geneviève Ménard

Department of Justice

Public Safety Canada

- Greg Yost
- Nigel Thalakada

PRESENTATIONS

BY COMMITTEE MEMBERS

During the Committee meeting, Dr. Ron Fourney delivered a notable presentation on Rapid DNA and Investigative Genealogical Genetics Technology and the NDDB's interest in exploring the use of rapid DNA analysis for the specific use of mass disaster victim identification. Upon discussion, it was agreed that the committee would be recommending the further exploration of rapid DNA analysis for mass disaster victim identification to the RCMP.

Although not an official member of the Committee, Greg Yost, a long-standing guest representing the Department of Justice, announced his retirement and consequently will no longer be attending the Advisory Board meetings on a regular basis. The Advisory Board would like to acknowledge and thank Greg for his valuable contribution to the discussions over the many years, in particular his guidance with respect to DNA legislation and his tireless support in promoting advances in the application of DNA for investigations in the interest of justice

ROYAL CANADIAN MOUNTED POLICE

National DNA Data Bank

Jeff Modler, Officer in Charge of the National DNA Data Bank, provided an update on the program. Highlights included:

- A description of the impact COVID-19 has had on the NDDDB workforce, including:
 - Number of staff on site per day decreased from 24 (pre-COVID) to 5-8 employees, in adherence with social distancing regulations;
 - Decrease in the number of DNA profiles added to the NDDDB resulting from a decrease in the number of DNA orders issued, as well as a decrease in the number of DNA profiles submitted to the Crime Scene Index by the public forensic laboratories; and,
 - All in-person training has been cancelled or put on hold until the fall of 2020. Online training remains available to RCMP employees.
- NDDDB is proud to be celebrating their 20th anniversary this year.
- 2019-2020 Accomplishments include:
 - The hard tissue sample process is now online;
 - CODIS 8.0 and targeted searching has been implemented; and,
 - The NDDDB client satisfaction survey is now available through the RCMP Survey Centre, with additional efforts being undertaken to have the link to the survey included on the Offender Hit Notification letters.

Geneviève Ménard, the DNA Collections and Training Manager, presented background on the DNA match process as well as the DNA retention rules. It was highlighted that the DNA Identification Act was amended in 2018 to repeal the requirement for the NDDDB to destroy the DNA profile and the biological sample once the retention period for an offender who has received a conditional or absolute discharge has expired and the record sealed. The Criminal Record Act, however, was not amended and does not allow for the release of the name and date of birth for an offender. A short-term workaround was identified, where a request can be made to the Minister of Public Safety to seek approval to release the Name and date of birth of an offender as per section 6.1 of the Criminal Record Act. Upon discussion, the Committee supported the short-term workaround to obtain the release of the match information and recognized that Public Safety should take the lead in beginning the amendment process of the Criminal Record Act.

Tamara Brittain, the CODIS Manager, provided an overview of the CODIS match disposition process and reporting process.

National Missing Persons DNA Program

Insp. Maxime St-Fleur, Officer in Charge of the National Centre for Missing Persons and Unidentified Remains (NCMPUR) provided an update on the program. Highlights included:

- The COVID-19 pandemic did not affect the NCMPUR program; all employees have been working from home since March.
- Although there has been a decrease in the number of authorization requests, employees focused their efforts in providing support and conducting follow-ups on authorization requests that were submitted prior to the pandemic.
- The number of uploads into the humanitarian indices for the NDDB has increased compared to last year.
- NCMPUR is currently working on partnerships with the Ontario and British Columbia coroners while talks with the Laboratoire de sciences judiciaires et de médecine légale, other provinces and Indigenous Communities are on hold due to the pandemic.
- NCMPUR held a forum for Centers of Missing Persons, which included both investigators and coroners. As a result of the feedback received and information shared at the forum, NCMPUR was able to update their best practices, standard operating procedures and the Family's Guide to the National Missing Persons DNA Program.

Specialized Policing Services

Cynthia Taylor, Director General of Strategic Policy and Integration, Specialized Policing Services (SPS) provided an update on the status of work on DNA upon conviction and Familial Searching. Specifically:

- Costing for the automatic collection and processing of DNA upon conviction for all designated offences is being finalized with an emphasis on automation and taking advantage of technology for receipt and record management of CCRTIS DNA information.
- Initial drafting considerations for legislative amendments were as done in consultation with the Department of Justice
- The Department of Justice Canada is conducting a Charter and Privacy review of Familial Searching.
- The Deputy Commissioner, SPS, obtained permission to present at the bi-annual Federal, Provincial & Territorial Assistant Deputy Minister (FPT ADM); this might be another venue to promote familial searching.

The Advisory Committee recommended that Cynthia discuss, with the Deputy Commissioner SPS, the possibility of presenting and promoting familial searching to the FPT ADM.

NOVEMBER 17, 2020

CONTRIBUTORS AND INVITED GUESTS

Royal Canadian Mounted Police

- A/Commr. Dennis Daley
- A/Commr. Philippe Thibodeau
- C/Supt. Wade Oldford
- Insp. Kim Hopkins
- Cpl. Shaun Foley
- Jeff Modler
- Michelle Doll
- Sarah Mohajer

Department of Justice

- Paula Clarke
- Phaedra Glushek

Public Safety Canada

- Nigel Thalakada

PRESENTATIONS

By Committee members

During the committee’s meeting, Derrill Prevett provided an informative overview of the *Genetic Non-Discrimination Act* (S.C. 2017, c. 3).

National DNA Data Bank

Jeff Modler, Officer in Charge of the National DNA Data Bank, provided an update on the program. Highlights included:

- A description of the impact COVID-19 has had on the NDDB workforce, including:
 - Laboratory employees’ presence increased to 20 hours per week on site;
 - The Missing Persons Unit, which was initially shut down, is now back up and running; and,
 - Decrease in the number of DNA profiles added to the NDDB as well as a decrease in the number of DNA profiles submitted to the Crime Scene Index by the public forensic laboratories continues to be observed.
- The 2019-2020 NDDB Annual Report was tabled in Parliament October 5, 2020.
- The link to the NDDB Client Survey was added to the Hit Notification Letters sent to investigators.
- An Audit of the NDDB by the Standard Council of Canada will be performed virtually due to COVID-19.

Dr. Ron Fournay, Director of the National DNA Data Bank, provided an update on current and future NDDB priorities. These priorities include Familial Searching, an expansion of the biological sample collection to include all convicted offenders, and changes to the *Criminal Records Act* to enable the release of the name and date of birth for DNA matches to offenders with expired discharge records and the use of Rapid DNA Technology.

Investigative Genetic Genealogy Technique (IGGT)

Cpl. Shaun Foley and Insp. Kim Hopkins with the National Office of Investigative Standards and Practices provided a comprehensive presentation regarding the Investigative Genetic Genealogy Technique (IGGT). Highlights included: The IGGT gained public attention through its use in solving the Golden State Killer case (California, 2018) and recently in Canada, in the case involving the murder of Christine Jessop, an investigation that is known for the wrongful conviction of Guy Paul Morin.

Privacy considerations need to be considered, specifically the use of personal genetic information from commercial or public service providers such as GEDmatch by law enforcement. This has led to some service providers requiring informed consent or advance notification and the automatic opted into the data base for potential law enforcement unless the individual donor of the sample advises otherwise.

The RCMP has developed a draft Operations Manual policy that will act as an accountability mechanism and ensure oversight to prevent the misuse of the technology. This will entail having a clear approval authority at senior management level as well as the possible use of a strategic advisory group who will assess whether there are pre-existing legal/investigative/evidentiary issues.

Upon discussion, the representative from the Office of the Privacy Commissioner will contact the National Office of Investigative Standards and Practices team to discuss a Privacy Impact Assessment option for IGGT.

FEBRUARY 18, 2021

CONTRIBUTORS AND INVITED GUESTS

Royal Canadian Mounted Police

- A/Commr. Philippe Thibodeau
- Jeff Modler
- Insp. Maxime St-Fleur
- Michelle Doll
- Sarah Mohajer
- Jennifer Gates-Flaherty
- Mark Labonte
- Chris Askew

Public Safety Canada

- Magali Mukunzi
- Martin Leuchs

PRESENTATIONS

By Committee members

Sue O’Sullivan provided a synopsis of the virtual International Table Top Mass Disaster Victim Exercise which took place on January 21, 2021. Members of the NDDB were invited observers.

National DNA Data Bank

Jeff Modler, Officer in Charge of the National DNA Data Bank, provided an update on the program. Highlights included:

- From October 2020 to February 18, 2021, all four units within the NDDB (Kit reception, DNA Analysis, CODIS and MPU) have been able to increase the number of on-site employees and are able to process all the submissions that come in weekly.
- Compared to last year, the number of biological samples the NDDB received is at 55% of what was previously received due to COVID-19 pandemic impact.
- The NDDB is preparing the 2020-21 NDDB Annual Report and it will focus on their 20-year anniversary.
- An external audit by the Standards Council of Canada is being conducted. A full documentation review is underway to determine the need for a partial remote assessment or a full remote assessment of all areas in the NDDB. The NDDB will also request a scope extension to include MPU protocols.
- The NDDB is proposing changes to the DNA Identification Act & Regulations, the Criminal Code and the Criminal Records Act in an effort to improve effectiveness.

- One of the challenges the National DNA Bank is running into is the ability to identify a potential new source of Hard Tissues Samples for quality control testing, development of new protocols and proficiency testing.
- Discussions are ongoing with the Université du Québec à Trois-Rivières to potentially gain access to their hard tissues bank when the NDDB does quality control testing or develops new protocols. The NDDB is also discussing this proposal with RCMP Legal Services.
- Introduction of the NDDB Convicted Offender Sample Collection Course: the course is currently available online through the RCMP Agora and will be available on the Canadian Police Knowledge Network as of March 2021.
- An overview of NDDB priorities was provided, including:
 - Moving forward with the familial searching initiative;
 - Legislative changes to allow for automatic collection of biological samples from Convicted Offenders;
 - Changes to the Criminal Records Act which will allow the release of the name and date of birth for DNA matches to offenders with expired discharge records; and,
 - Evaluating the Rapid DNA Technology.

Specialized Policing Services

Michelle Doll and Sarah Mohajer, Strategic Policy and Integration, Specialized Policing Services, provided an update on two previous recommendations that the NDDB Advisory Committee put forward:

Recommendation 1: Automatic collection of DNA upon conviction

SP&I is currently drafting a briefing package to the Commissioner which will include:

- Charter advice from the Human Rights and Law Section from the Department of Justice Canada;
- A preliminary costing for this initiative. Given the current focus on modernization at the RCMP, the cost of the automation of the DNA 3801 forms will also be included;
- Draft illustrative amendments: SP&I is currently working with RCMP Legal Services as well as the NDDB to determine what the amendments could look like.

Recommendation 2: Familial Searching

SP&I had recent discussions with the Department of Justice Canada regarding a revised legal opinion that was drafted by their Human Rights and Law Section. A preliminary draft has been completed, however, it has not yet been finalized due to other more pressing legislative priorities. Regardless, it was determined that the policy proposal to the Commissioner can still move forward based on the preliminary review by the Department of Justice Canada. The intent is to submit both policy proposals to the Commissioner post-budget, in the new fiscal year.

Canadian Criminal Real Time Identification Services (CCRTIS)

Jennifer Gates-Flaherty, Director General of CCRTIS, accompanied by Mark Labonte, Director of Biometric Business Solutions (BBS), delivered a presentation highlighting the role of the program within the RCMP. Within CCRTIS BBS, three major initiatives are currently underway: Touchless Fingerprint Capture Solutions using smartphones and unattended Livescan technology; exploring the feasibility of implementing Facial Recognition Technology (FRT) in CCRTIS; and, the DNA Workflow Automation.

Discussion ensued on the issue of FRT and media reports indicating that facial recognition is illegal. It was noted that although there may be concerns over the use of facial recognition from a privacy standpoint, there is presently no jurisprudence or legislation in Canada that would prohibit a private enterprise from using and analysing a person's physical features collected in circumstances where there is no reasonable expectation of privacy. CCRTIS advised that should FRT be implemented in the CCRTIS context, they would ensure compliance with existing standards.

National DNA Bank Missing Persons Unit (MPU)

Chris Askew, Program Technical Leader with the National DNA Data Bank, provided an update on the Missing Persons Unit. Highlights included:

- The MPU is transitioning to completely electronic case files, which will allow employees to work remotely.
- Submissions have been consistent during the pandemic.
- Typically, exhibits are processed within 30-90 days and DNA profiles within 30 days.
- An explanation of the DNA profile comparison was provided.
- The MPU has validated a demineralization procedure to isolate DNA from calcified tissues.
- Thermo Fisher Ion S5 and Ion Chef System with Converge software is going to be used for mitochondrial DNA Analysis. Currently, it is still at the validation level, but it is anticipated that it will be implemented sometime this year. This will help to resolve some of the weaker CODIS hits.
- Two RapidHIT ID Instruments were purchased. The instruments can process a single sample and develop a DNA profile in as little as 90 minutes.
- Over the past year, the MPU released 24 reports, several of which served to promote the positive impact of the program.

The current policy on archival bone powder is to return the remaining bone powder to the investigators. However, other "work product" (e.g. DNA extracts) are only returned upon request. The question arose as to whether or not there would be an issue keeping this archival bone powder as it could be used for future analysis. NDDDB Advisory Committee members discussed this question and are of the opinion that if the NDDDB can keep the DNA extract, there is no reason not

to be able to keep the bone powder. However, from a victim's lens, they may want the bone powder to be returned since it is part of a person's remains and they may wish to bury the powder as well. Usually, the decision is left with the family. From a privacy perspective, the only question that remains would be why the National Data Bank NDDDB needs to keep it and what would they do with it. The rationale would be to keep it in instances where the National Data Bank needs to do other tests (e.g. mitochondrial DNA testing).

The MPU also sought the AC's input as it relates to mouth swabs or bloodstains collected from a person with memory loss:

- The DNA Identification Act states, "Human remains include any detached part of the body of a person who may still be alive"; Does this definition allow for the inclusion of a sample collected from a person with memory loss? Could a mouth swab or bloodstain collected from a person with memory loss be considered a detached body part?

The AC committee advised that from an ethical perspective, it is really about formal consent. For example, if a person with amnesia had the ability to understand that they do not know who they are because of a medical condition and that getting a DNA sample would help identify the person, there should not be any issues with collecting a swab to find a possible match. In the spirit of the legislation, remains from a body may be a little different from a sample collected from a swab. In the US, the FBI National DNA Index System has established an Unidentified Humans (Remains) Index, and the definition allows for the inclusion of DNA profiles from individuals suffer from amnesia. The NDDDB needs the ability to enter a DNA profile from a person suffering from memory loss into the Human Remains Index in order to search them against the relatives of missing persons. Currently the addition of this DNA profile to any other index does not help the NDDDB identify that person unless they happen to have a DNA sample in the Convicted Offender Index or in the Victims Index.

National Missing Persons DNA Program

Insp. Maxime St-Fleur, Officer in Charge of the National Centre for Missing Persons and Unidentified Remains (NCMPUR) provided an update on the National Missing Persons DNA Program. Highlights included:

- With NDDDB's guidance, NCMPUR has implemented a parallel system to increase efficiencies, which appears to be working well as they have been able to process more submissions.
- NCMPUR has given NDDDB MPU full access of the MCPUR database/application to facilitate the process.

Going forward, NCMPUR's commitments include:

- Continue outreach initiatives with Yukon and Nova Scotia. The same initiative was successful with New Brunswick and Toronto;
- Provide in-person training to their partners and NDDB unit;
- Continue to update their best practices in order to reflect their partners' reality on the ground; and,
- Continue to raise public awareness and promote the National Missing Persons DNA Program.

2021 - 2022 YEAR IN REVIEW

ADVISORY COMMITTEE MEETINGS

The total expense for the meetings held in fiscal year 2021-2022 was \$2,200.00

JUNE 3, 2021

CONTRIBUTORS AND INVITED GUESTS

Royal Canadian Mounted Police

- A/Commr. Wade Oldford
- A/Commr. Dennis Daley
- Jeff Modler
- Cynthia Taylor
- Michelle Doll
- Sarah Mohajer
- Shaun Foley
- Don Halina
- Cheryl Wadasinghe
- Isabelle Trudel

PRESENTATIONS

National DNA Data Bank

Jeff Modler, Officer in Charge of the National DNA Data Bank, provided an update on the program. As of March 31, 2021, the number of profiles in each index continued to grow, however, the pandemic has impacted the rate of increase compared to the previous year.

Jeff Modler also provided an update on new technologies, including:

- Mitochondrial DNA Analysis: The preliminary evaluation was completed for the control region using the ThermoFisher Ion Chef and S5 instruments. Supplemental validation is underway analyzing DNA isolated from bones, teeth and hair and reference samples to test interpretation parameters and guidelines. The next step will be to complete the training of Reporting Scientists.
- Validation of the RapidHit ID System: This instrument will be used as a screening tool, with confirmation by conventional methods. It may also be deployed in a disaster victim identification (DVI) situation and for processing priority cases for the Missing Persons Unit

(MPU). This instrument can only process one biological sample at a time. The RapidHit ID system is forecast to be operational by end of September 2021.

NDDB priorities include:

- The NDDB Annual Report 2020-21 was sent to Commissioner Lucki for approval. This year's edition celebrates the 20th anniversary of the NDDB.
- The NDDB Convicted Offender Sample Collection course is now available on the Canadian Police Knowledge Network.
- The NDDB has passed the external audit from Standards Council of Canada and has renewed their current scope of accreditation. The NDDB requested a scope extension to cover the Missing Persons Unit protocols, however, this has yet to be formally approved.
- CODIS 9.0 is now installed at the NDDB and will be rolled out to CODIS participating laboratories during the months of June and July 2021.
- The NDDB Client Survey has seen a decrease in responses since being added to the Offender Hit Notification Letters. The NDDB has advised internal and external stakeholders of the importance of completing and submitting the surveys. Additional efforts are being placed on finding ways to increase responses.

Specialized Policing Services

Cynthia Taylor, Director General of Strategic Policy and Integration, Specialized Policing Services, provided an update on the status of work on DNA upon conviction and Familial Searching. Specifically:

- Although SP&I was not able to obtain a revised legal opinion from the Department of Justice Canada on Familial Searching, they were able to engage with the RCMP Legal Services on this issue.
- SP&I is working on determining the cost for some automation elements in the workflow for the automatic collection of DNA upon conviction.
- SP&I will be briefing the Commissioner on both DNA upon conviction as well as Familial Searching, with the goal of moving these forward to the Minister of Public Safety before the end of the parliamentary session. A Memorandum to Cabinet will be prepared should the Minister support these initiatives.

Investigative Genetic Genealogy Technique (IGGT)

Sgt. Shaun Foley with the RCMP's Contract and Indigenous Policing (C&IP) provided an update regarding the Investigative Genetic Genealogy Technique (IGGT) policy. The Committee members were given an opportunity to review, question, and provide comments on the policy. NDDB Advisory Committee members discussed various sections of the draft policy and provided their comments and feedback.

JULY 27, 2021

CONTRIBUTORS AND INVITED GUESTS

Special Guest

- Greg Yost (retired from the Department of Justice Canada)

A special meeting was held on July 27, 2021, in response to a request, by Senator Carignan’s office, for comments on proposed legislative changes outlined in draft Bill S-236.

The purpose of this meeting was to address questions and discuss the approach to the response to Senator Carignan’s request.

Greg Yost provided the Advisory Committee with an overview of the background and context of the Senator’s request, as well as details on the legislative components of the request. Following discussion, which included the implications of the proposed Bill, the AC agreed on the following key messages in their response back to Senator Carignan:

- The AC would reiterate the NDDB’s previous, publicly stated position (letters from 2015 and 2017);
- Support Bill S-236, however, with caveats with respect to costing and efficiencies analysis; and,
- Indicate potential future use/expansion for other purposes (e.g. unidentified human remains).

NOVEMBER 19, 2021

As a follow-up to the July 27, 2021 meeting, the AC met once again to discuss Bill S-236. Following receipt of the AC’s response letter, Senator Carignan submitted additional questions to the AC. In response to these additional questions, Derrill Prevett, vice-chair, prepared an initial draft response which the AC reviewed and discussed during this meeting, in order to obtain consensus on the response to Senator Carignan’s request.

2022 - 2023 YEAR IN REVIEW

ADVISORY COMMITTEE MEETINGS

The total expense for the meetings held in fiscal year 2022-2023 was \$2,200.00

APRIL 13, 2022

CONTRIBUTORS AND INVITED GUESTS

Royal Canadian Mounted Police	<ul style="list-style-type: none">• Jeff Modler• Cheryl Wadasinghe• Mauro Golin• Don Halina• Isabelle Trudel• Nancy Laurin• Michelle Doll• Sarah Murdoch• Cynthia Taylor
Public Safety Canada	<ul style="list-style-type: none">• Cinthya Rebaza• Robert MacLeod
Edmonton Police Service	<ul style="list-style-type: none">• Devin Laforce• Ted Chomchuk
Department of Justice Canada	<ul style="list-style-type: none">• Paula Clarke

PRESENTATIONS

National DNA Data Bank

Jeff Modler, Officer in Charge of the National DNA Data Bank, provided an update on the program.

Highlights included:

- The number of profile entries into the NDDB indices decreased in fiscal year 2020/2021, but has increased in 2021/2022, which are beginning to climb to the pre-pandemic levels. As Hits are directly correlated to the number of DNA profiles in the indices, the same trend is observed.
- Since the amendments to the 2018 DNA legislation, allowing victim’s DNA profiles to be added to the Victims Index and searched against other indices within the databank (with

the exception of the Relatives of Missing Persons Index) nine comparisons resulting in the identification of victims have been made.

- There has also been success with the National Missing Persons DNA Program where forty (40) associations linking human remains to a DNA profile in the databank have been made, resulting in providing names to the respective investigators of forty (40) different cases.
- New technologies, including:
 - Rapid Hit ID Systems: The validation of the two Rapid Hit ID instruments from Thermo Fisher have been completed and indicate that these instruments are able to generate accurate, repeatable and reproducible DNA profiles. At this time, these instruments will be used exclusively as screening tools as they have yet to meet quality assurance standards. Note that the NDDDB does not accept DNA profiles generated using these instruments and continues to strictly utilize DNA profile results obtained using the standard forensic DNA testing protocols.
 - Mitochondrial DNA: The validation is ongoing, with the intent that this will be completed this summer. Scientists will then be trained in house, with plans for mitochondrial testing to be initiated by late fall/early winter. In the interim, Bode Technology continues to conduct mitochondrial DNA analysis for NDDDB cases.
- Accomplishments:
 - The NDDDB's 2020/2021 Annual Report was tabled in Parliament in December 2021. The 2021/2022 Annual Report, the theme of which is First Responders, is at the approval stage.
 - NDDDB Convicted Offenders Sample Collection course is now available on both the Canadian Police Knowledge Network and the RCMP Agora Network. Internal training for the collection of Convicted Offender samples continues using a virtual platform.
 - Efforts continue on the Paperless 3801 Project which will move towards a sustainable, paperless process and the capturing of fingerprints electronically.

There continues to be a low survey return rate following the implementation of the new survey process in 2019. The NDDDB recognizes the importance of this survey and continue to search for new strategies to improve the process.

Public Safety Canada

Cinthya Rebaza, Director of Serious and Organized Crime Policy, Public Safety Canada, provided an overview of Public Safety Canada's role with respect to DNA activities and their governance structure:

- Public Safety (PS) coordinates and develops advice regarding policy, governance and research in support of DNA activities. As part of the same portfolio as the RCMP, PS works in collaboration with the RCMP to complement both mandates. In addition, PS is responsible for managing contribution agreements with Ontario and Quebec under the Biology Casework Analysis Contribution Program (BCACP) as well as facilitating negotiations on the Biology Casework Analysis Agreements (BCAA) with the other provinces and territories.
- Public Safety's governance structure consists of two Federal-Provincial-Territorial (FPT) groups: the Crime Prevention and Policing Committee (CPPC) at the Assistant Deputy Minister-level; and a DNA Working Group (DNA WG).
 - o The CPPC provides government leadership on crime prevention and policing issues in Canada, acts as a referral body to examine issues identified by DMs and Ministers, and provide recommendations and reports to DMs and Ministers; and
 - o The DNA WG includes representative from PS, RCMP, Justice Canada, and each province and territory who collaborate to identify strategic priorities to optimize the use of DNA analysis for the Criminal Justice System and provides policy and sustainable DNA analysis updates and recommendations to the CPPC, on issues such as service delivery and ongoing associated costs.

Although PS is not currently working on policies on DNA, they are conducting a trend analysis with respect to the increased demand for DNA analysis from 2016 to 2020/2021 and collaborating with the FPT DNA WG to identify additional indicators. The intention is to forecast the future demands for DNA analysis.

PS is also working on responding to the recommendations resulting from the 2019 Evaluation as well as implementing the 2022 budget through the renewal of the agreements with Ontario and Quebec under the BCACP, and engaging in negotiations with other P/Ts to renew the BCAAs.

Edmonton Police Service's Rapid DNA Program

Supt. Devin Laforce and Ted Chomchuk, Edmonton Police Services (EPS) provided a brief overview of their demographics and services, and presented the Advisory Committee with information on their Rapid DNA Program, including the contributing factors to the creation of their program which include: public safety; enhancing timeliness of investigations; increasing the solvability; and, modernizing police thinking (EPS was experiencing a decrease in access to services, and increased turn around times (TAT) from NFLS, in addition to increased financial responsibility from the province of approximately 2.3 million dollars a year).

EPS noted the following benefits of Rapid DNA testing:

- Ability to avoid NFLS delays and restrictions;
- Speed of information to investigators to include or exclude potential suspects;
- Information obtained may give Reasonable and Probable Grounds to arrest;
- Allows for testing of various samples, and to batch profiles;
- Allows for interpretation, and subsequently submit only one or two exhibits to NFLS rather than dozens; and results are obtained within 90 minutes. Contributes to sustainability and cost reduction as the submission of exhibits is streamlined.

EPS further provided an overview of various successful investigation cases using the ANDE Rapid DNA instrument, how it functions, its efficacy and how it can contribute to sustainable change. EPS foresees some upcoming challenges with the expansion of Rapid DNA practices such as costs associated with the creation of provincial databases; additional workload for NFLS, particularly with respect to returning DNA profiles with the initial reports, the digitization of reports and profiles, and increased human resource requirements (clerical and administrative) for NFLS.

Provincially, EPS is looking to engage in discussions with the Chief Crown Counsel to seek how Rapid DNA can be transitioned from a screening tool to an evidentiary tool, as a way to utilize Rapid DNA as a defensible product in court.

Participants discussed the importance of progressing with prudence and in a balanced manner to ensure all factors such as quality assurance, accreditation, training, and research and development are taken into consideration. Advisory Committee members expressed that challenges may arise around privacy in regards to access of information, safeguarding and information release.

JUNE 1, 2022

CONTRIBUTORS AND INVITED GUESTS

Royal Canadian Mounted Police

- Jeff Modler
- Cheryl Wadasinghe
- Mauro Golin
- Don Halina
- Isabelle Trudel
- Nancy Laurin
- Michelle Doll
- Sarah Murdoch
- Cynthia Taylor
- Alison Ste-Marie

Public Safety Canada

- Cinthya Rebaza

Edmonton Police Service

- Devin Laforce
- Ted Chomchuk
- Brad Kline
- John Kim

Department of Justice Canada

- Phaedra Glusek

PRESENTATIONS

National Forensic Laboratory Services (NFLS)

NFLS advised the NDDDB Advisory Committee that they are focusing efforts on how rapid DNA technologies can be used within forensic laboratories (specifically NFLS), and not only in an investigative capacity.

Since the fall of 2019, NFLS initiated the procurement, tested and validated the two main rapid DNA instruments, ANDE 6C and RapidHIT ID. The testing included a side-by-side evaluation of the two Rapid DNA Instruments and the current conventional DNA analysis, to allow for a direct comparison. Alternative collection or preparation methods were tested for each Rapid DNA instrument. Blood and saliva-based samples on various substrates and objects were included in this evaluation. Blood and saliva dilution series were used to assess the sensitivity of the technology. Currently, NFLS is internally creating reports on both the instruments tested, however, using the range of sample types, both instruments demonstrated precision, reliability, concordant and repeatable results.

Results of the testing revealed that:

- The way in which the samples were prepared and collected has a greater impact on the Rapid DNA results versus the conventional DNA analysis.
- There could be an increased sensitivity to inhibitors when using Rapid DNA instruments, due to the miniaturization and the speed of the process.
- The RapidHIT ID was more flexible and provided slightly more information than the ANDE 6C but the overall success rate and profile quality is superior with conventional DNA analysis.
- Mixture interpretation is not currently supported for either Rapid DNA instrument.

Following the results of the testing projects, the RapidHIT ID instrument could be considered and introduced as a first step towards implementing Rapid DNA testing to the Laboratories. The proposed pilot project would include only reference (known) samples for the time being, as there is no requirement to quantify the DNA. The process would include running the sample through the RapidHIT ID instrument first, recovering the sample and processing it through the conventional DNA analysis, then continuing to process both results through the remainder of the conventional DNA process (output file), to be able to compare results for concordance. The goal is to determine if they could one day rely on the RapidHIT ID instrument for the analysis of the sample. Practicality and cost effectiveness of this approach will also play a factor in its potential incorporation into NFLS; however, its reliability and ability to contribute towards public confidence and safety is a priority. The cost analysis has yet to be conducted.

Discussion ensued regarding the importance of providing municipal agencies with guidance and best practices regarding Rapid DNA testing. Senior police leaders and other key players within police agencies should also be informed of the existing structures which would allow them to build off the important work that has already been done and manage workflow to prevent setting negative precedent. Building this much needed community, possibly by way of a committee, would allow for further discussion on this issue as well as making this information available, which is vital to the success for the use of Rapid DNA within our Canadian municipal agencies.

It was also noted that at this time Canada has no legislation on this subject. The NDDB confirmed that Rapid DNA is to be used solely as an investigative tool.

NOVEMBER 10, 2022

CONTRIBUTORS AND INVITED GUESTS

Royal Canadian Mounted Police

- Jeff Modler
- Don Halina
- Michelle Doll
- Sarah Murdoch
- Cynthia Taylor
- Alison Ste-Marie
- Dr. Ron Fourney
- Dr. Nancy Laurin

Public Safety Canada

- Cinthya Rebaza

Department of Justice Canada

- Phaedra Glusek

PRESENTATIONS

Public Safety Canada (PSC)

Public Safety Canada (PSC) is committed to continued coordination and development of advice, policy recommendations, governance, and research activities that support DNA analysis.

Since 2010, PSC has provided funding to support Ontario and Quebec through the Biology Casework Analysis Program (BCACP) to support DNA analysis activities conducted in their forensic laboratories and to encourage their collaboration in submitting DNA profiles to the NDDB. In addition to \$6.9 million in existing funding, Budget 2022 announced \$28.8 million over five years and \$5.9 million ongoing in new funding starting in 2022/23. PSC has begun the BCACP negotiation process with Ontario and Quebec for upcoming years.

PSC also negotiates cost-sharing agreements (Biology Casework Analysis Arrangements, BCAAs) with each province and territory, excluding Ontario and Quebec, to partially recover costs required to process each jurisdictions' crime scene DNA samples in RCMP laboratories and support the submission of crime scene DNA profiles to the NDDB. The BCAAs will expire on March 31, 2024. Over the coming year, PS will be leading negotiations for new agreements.

PSC is also co-chair and provides secretariat services to the Federal/Provincial/Territorial (FPT) DNA Working Group, which is a consultation mechanism for DNA related issues and activities.

Membership consists of representatives from Public Safety, RCMP, Justice Canada, and a representative from each province and territory. The next FPT DNA Working Group meeting is scheduled for the fall 2022.

Forensic Science and Identification Services (FS&IS)

Alison Ste-Marie, Director, Integrated Support Services, FS&IS provided a brief overview of Forensic Science and Identification Services (FS&IS), which is composed of the following business lines:

- Canadian Criminal Real Time Identification Services (CCRTIS) which maintains the national repository of fingerprint and criminal record information;
- The Canadian Police Information Centre (CPIC), which is responsible for the CPIC system, composed of four main data banks (the Investigative Data Bank; the National Repository of Criminal Records; the Intelligence Data Bank; and the Ancillary Data Bank;
- Integrated Forensic Identification Services (IFIS), the National Policy Centre for approximately 280 Forensic Identification Services (FIS) positions across Canada;
- Integrated Support Services' (ISS) which provides strategic issues management and essential corporate support to FS&IS senior managers and employees;
- National Forensic Laboratory Services (NFLS), which operates as a single public laboratory system with three sites (Ottawa, Edmonton and Surrey). They provide forensic services in biology, firearms, toxicology and trace evidence for police from across Canada (excluding Ontario and Quebec). NFLS also oversees the National Anti-Counterfeiting Bureau for all federal, provincial and municipal investigations; and,
- Science and Strategic Policy (S&SP): which was presented by Dr. Nancy Laurin in the next presentation.

FS&IS strategic priorities include:

- Strengthening our workforce;
- Promoting a diverse workforce;
- Supporting the use of innovative approaches;
- Improving Governance, accountability and transparency;
- Enhancing partnerships; and,
- Enhancing Tools and Technology.

Science and Strategic Policy (S&SP)

Dr. Laurin, acting Director General, FS&IS Science and Strategic Policy (S&SP) introduced herself and provided an overview of S&SP, including their key responsibilities:

- Responsible for the overall science strategy for FS&IS, including the NDDDB and the Missing Persons DNA Program;
- Drive and support the legislative/science framework for FS&IS;
- Monitor national and international issues regarding forensic science;

- Help guide the responsible use of emerging technology in forensics in policing; and,
- Drive innovation and support the development of new ways of enhancing the delivery of forensic science services.

S&SP's priorities are:

- Evolving technology (mitochondrial DNA analysis; Rapid DNA analysis);
- Evolving legislation (Increase number of profiles in the NDDB; Familial Searching);
- Exploring new investigative techniques (Forensic Investigative Genetic Genealogy; DNA phenotyping/biogeographical ancestry prediction);
- Connecting with internal and external partners and stakeholders;
- Solidify capacity (staffing vacant positions; implementing new technologies and workflows).

National DNA Data Bank

Jeff Modler, Officer in Charge of the National DNA Data Bank, provided statistics with respect to the number of DNA Profiles in the Convicted Offenders Index, the Crime Scene Index and the other DNA indices maintained by the NDDB. The number of DNA Profiles submitted to the NDDB appear to be returning to pre-pandemic levels, and the number of profiles in each of the humanitarian index continues to grow. The NDDB had approximately 434,000 profiles in Convicted Offenders Index; 205,000 profiles in the Crime Scene Index; 1500 profiles in the Relatives of Missing Persons Index; and, over 300 in the Human Remains Index. As of October 31, there were over 200 profiles in the Missing Persons Index. The number in the Voluntary Donors Index was still at zero, however, the voluntary donor samples are being used more at the local level rather than at the national level. The increase in the number of profiles entered into the Convicted Offenders Index and Crime Scene Index this fiscal year resulted in a higher number of offender and forensic hits compared to last fiscal year, which is to be expected.

The following NDDB highlights were also provided:

- The NDDB had been receiving some challenging human remains samples from public labs. The NDDB attempted to develop DNA profiles from these remains, however, they were only able to obtain either partial profiles or no profiles. The NDDB consulted other missing persons labs in the US on a regular basis to gather tips on how to remove impurities, and were successful in obtaining interpretable quality DNA profiles from samples that the public labs were not successful in obtaining, which was encouraging.
- Hit Notification Letters with Incorrect Information: As an update on the Hit notification letters released that contained incorrect information, including the incorrect offender name or the incorrect specimen identification number, Jeff Modler advised that the following actions were taken to address the errors:

- CCRTIS' Criminal Record Analysis Services (CRAS) has implemented a second review process;
- Additional resources are being trained to prepare and review the notification letters;
- Enhancements are being made to the program (Criminal Justice Information Management) used to generate Hit Notification letters.

Since taking these actions, the NDDB has not received any reports of the release of incorrect information.

- Science and Strategic Policy was re-organized into the following sections:
 - NDDB Operations: Manager (OiC); Kit Reception Unit; DNA Analysis Unit; CODIS Unit
 - NDDB Policy & Program Support: Manager; Program Technical Leader; NDDB Forensic Quality Assurance Advisor
 - Missing Persons Unit
 - Strategic Policy & Development Unit
- Technology Updates:
 - Familial Searching - CODIS 9 software: The NDDB completed a validation study to demonstrate that the CODIS 9 software will allow for familial searching, and developed Standard Operating Procedures. It should be noted that the NDDB will not be in a position to implement this technology until the DNA Identification Act is amended.
 - I-Familia: Launched in 2021 by INTERPOL, I-Familia allows for international comparison of DNA profiles from missing persons and unidentified human remains and for DNA kinship analysis. The goal is to assist countries who do not have a national missing persons DNA program. I-Familia contains anonymized DNA profiles of biological relatives from missing persons and the DNA profiles of unidentified human remains. Family profiles are used solely for the purpose of identifying missing persons, and there is no connection between I-Familia and any other INTERPOL database.
- INTERPOL is urging member countries to make effective use of the I-Familia database, notably through:
 - The lawful provision of DNA profiles of unidentified human remains in unsolved national investigations;
 - The lawful provision of DNA profiles of biological relatives of missing persons who are the subject of unsolved national investigations;

- Ensuring that the data is accurate, regularly updated and in accordance with the legal and technical requirements as detailed in the I-Familia policy;
 - Responding promptly and accurately to requests for further information following a potential biological association report issued by I-Familia.
- INTERPOL is requesting that member countries consider making appropriate legislative and policy efforts, including amending existing legislation, to enable the storage and comparison of DNA profiles in the I-Familia database, in order to best meet and fulfil the purposes of the database. The NDDDB recommended that the Commissioner of the RCMP support, in principle, INTERPOL's proposal for the use of their I-Familia software for international kinship searching at the 90th INTERPOL General Assembly (October 18-21, 2022). Amendments to the DNA Identification Act will be required as Section 6.4(3) only allows for DNA profiles in the Missing Persons or Human Remains Index to be communicated to a foreign government. Family members will also be required to consent to have their DNA profiles submitted to INTERPOL.
 - The Automation of DNA Submission workflow for CCRTIS/NDDDB: The RCMP's Canadian Criminal Real Time Identification Services continues its work on the automation of DNA Submission Workflow, which would replace the requirement for paper-based fingerprint submissions (form 3801) with electronically captured fingerprints. Challenges remain as courtrooms and correctional facilities do not have access to Livescan devices.

Strategic Policy & Integration (SP&I)

Cynthia Taylor provided members with a status update on Familial Searching and DNA Upon Conviction. She advised members that with the support of the Commissioner of the RCMP, a briefing package had been provided quite a while ago to the Minister of Public Safety outlining the details of S-236 and the RCMP's recommendations for Familial Searching and DNA upon conviction. The Minister's office had yet to provide feedback.

Bill S-231, which replaced S-236, received 2nd Reading in the Senate and should be going to the Senate Committee for study, which may or may not raise this item to priority status with the Minister's Office. The Department of Justice Canada has yet to receive a request from the Minister of Justice to prepare the Government's position on this Private Member's Bill (PMB), however, analysis has begun with respect to the scope of the PMB, particularly as it relates to the proposed convictions put forth by S-231.

Discussion ensued regarding the fact that the PMB does not include costing. As two Bills on the same subject cannot be on Parliament's agenda at the same time, two options are available: either the PMB is supported with amendments, and costing can come at a later date; or the

Government can propose its own legislation which would include implications and costing. For this last option, the RCMP is in a good position as most of the work has already been done.

The challenge remains to obtain the Minister's office interest and traction on moving this forward. It was suggested that the AC write directly to the Minister and c.c. the Commissioner, framing the subject of the correspondence around the PMB. AC members agreed that this may be a good option to move forward on Familial Searching and DNA upon conviction.

The AC further discussed other options available, such as providing the Senate Committee with a written brief, and/or applying to appear as witnesses before the Senate Committee as they conduct their study of Bill S-231. Members agreed that further discussion would be required to confirm the way forward.

FORUMS AND CONFERENCES

The science of DNA and the technology related to its use continues to evolve at an unprecedented pace. The involvement of members of the NDDB Advisory Committee in international forums, conferences, and their highly specialized knowledge ensures the Committee as a whole remains current with the evolving science and related technology.

At different times, members of the Advisory Committee were invited to present professional papers or facilitate DNA working groups at national and international meetings and conferences. The information gleaned from these various events were reported back to the Advisory Committee and subsequently shared with all members. Dr. Ron Fourney and Sue O'Sullivan participated in an International Table Top Mass Disaster Victim Exercise which was held on January 21, 2021. Dr. Fred Bieber also hosted a workshop entitled Silent Disasters: Establishing and Operationalizing New Technologies for Missing Persons Programs at on February 22, 2022, at the American Academy of Forensic Science's 2022 Annual Scientific Conference. The workshop focussed on established and emerging science, law, and ethics surrounding the use of emergent DNA technologies to bring justice and closure in the wake of genocide, armed conflict, and other humanitarian crises. Dr. Ron Fourney also attended the Green Mountain DNA Conference held in July 2022. This Conference provides a forum for the promotion of education and research while improving practice and encouraging collaboration in the field of forensic sciences.

LEGISLATION

Since its creation in 2000, the NDDB has been a valuable tool in enhancing public safety by helping to solve crime, protecting the safety of Canadians while respecting the privacy rights of individuals. Over the past twenty years, several legislative amendments, primarily focused on expanding the number of offences eligible for sample collection following conviction, have taken

place to increase the number of profiles in the Convicted Offenders Index. A recommendation, from both the House of Commons Standing Committee on Public Safety and National Security (2009) and the Standing Senate Committee on Legal and Constitutional Affairs (2010), was to amend the law to allow for the automatic collection of DNA from any adult who had been convicted in Canada of a designated offence as defined by Section 487.04 of the Criminal Code. NDDDB Advisory Committee representatives appeared before both Parliamentary Committees and were in support of the recommendation. Since that review, ongoing efforts by the NDDDB to educate the judiciary, courts, the legal community and the police through training sessions, educational forums, conference presentations and information sessions continue to take place. Despite these efforts, research data indicates that the number of submissions to the NDDDB falls well below what criminal convictions for DNA specified offences suggest should be in the NDDDB.

In 2018, the government introduced Bill C-75, An Act to amend the Criminal Code, the Youth Criminal Justice Act and other Acts and to make consequential amendments to other Acts. The NDDDB Advisory Committee reviewed this Bill and recognized there could be a significant potential negative impact, which could decrease eligible convicted offender sample submissions to the NDDDB and consequentially limit the number of DNA matches in aid of criminal investigations. The NDDDB, endorsed by the Advisory Committee, provided continuous advocacy and support to the Canadian Association of Chiefs of Police (CACP) as Bill C-75 proceeded through the parliamentary process. The Bill was fortunately amended to remove the negative impact on the NDDDB and received Royal Assent on June 21, 2019.

In June 2021, Senator Carignan introduced Senate Bill S-236, An Act to amend the Criminal Code, the Criminal Records Act, the National Defence Act and the DNA Identification Act. It sought to expand the list of eligible DNA designated offences and made DNA sampling orders automatic upon conviction. S-236 also made references to familial DNA searching and communication of search results with Canadian investigative authorities and those of other countries. The NDDDB Advisory Committee met on July 27 2021 to review the proposed legislative changes outlined in Bill S-236. S-236 died on the order paper with the dissolution of Parliament and the calling of the election in August 2021. In a letter written in response to Senator Carignan, the NDDDB Advisory Committee endorsed the efforts in Bill S-236 and encouraged the Senator to move forward in re-introducing such a bill in the next Parliament.

Upon the resumption of Parliament, in December 2021, Senator Carignan re-introduced Senate Bill S-231, An Act to amend the Criminal Code, the Criminal Records Act, the National Defence Act and the DNA Identification Act. The preamble of S-231 correctly sets out why amendments need to be made: The usefulness of the NDDDB increases with the number of DNA profiles it contains. S-231 seeks to make nearly every offence in the Criminal Code of Canada a DNA designated offence and make the issuing of Orders for DNA samples from offenders automatic.

Following an extensive review of Bill S-231 among the committee members, in January 2022 the NDDB Advisory Committee submitted a letter to the Commissioner highlighting their agreement with the suggested amendments, providing various recommendations, as well as endorsing the furtherance to the Minister of Public Safety to work with Senator Carignan to advance the proposed legislative amendments. On March 29, 2022, Senator Carignan moved the second reading of Bill S-231.

The NDDB Advisory Committee wishes to thank Mr. Greg Yost, the Department of Justice legal representative to the committee (now retired) for his continued guidance and contribution to the above noted deliberations over the past several years.

FAMILIAL SEARCHING

Familial searching is an additional search of a law enforcement DNA database conducted after a routine search has been completed and no exact DNA profile matches are identified to a donor in the database during the process. The DNA found at crime scenes is compared against a law enforcement DNA databank to identify a person with many shared DNA characteristics and who could be a close family member. Simply put, investigative leads to parents, offspring or siblings can be identified using this means of investigation. Familial searching has been successfully utilized in the United States, United Kingdom, and other countries to create new investigative leads for heinous crimes where all other procedures have been exhausted.

The NDDB Advisory Committee studied, reviewed, and had numerous presentations on this issue over a ten-year period and included comments on this matter in previous annual reports. Members of the Advisory Committee appeared before the Standing Senate Committee on Legal and Constitutional Affairs in 2010. The Senate Committee recommended that the Department of Justice study the matter to determine how to appropriately craft a provision that would balance the need to protect society, ensure the respect of privacy rights, and preserve the presumption of innocence as it relates to familial searching.

In 2015, the NDDB Advisory Committee once again reviewed this matter and concluded that the value of familial searching to solve challenging, serious cases and protect Canadians outweighs the inherent risks associated to its use. The humanitarian aspect of not doing what is possible to protect the public must also be considered since the public remains at risk when violent criminals remain at large. Additionally, familial searching has been used to exonerate the innocent.

As a result, the Advisory Committee wrote to the Commissioner of the RCMP in December 2015 recommending that the value of familial searching be pursued with the Minister of Public Safety for serious, violent, and serial crimes for open cases where all other investigative avenues have been exhausted. The NDDB Advisory Committee recognizes that the current DNA Identification

Act legislation effectively prevents familial searching as the NDDDB can only report exact matches and partial matches where the profile cannot be excluded as a candidate. It would therefore be necessary to pursue legislative amendments to make it possible to report similar matches to family members.

In 2018, the RCMP commissioned the preparation of a “discussion paper” on the subject of familial searching. Dr Chris Maguire, a respected external subject matter expert on this subject and a forensic scientist from the UK with over 30 years’ experience and professional links to the international forensic science community, was engaged to conduct the research and draft the paper. The RCMP asked the NDDDB Advisory Committee to review the Discussion Paper document and offer comments based on the committee’s professional expertise. The Committee widely endorsed the document and offered specific feedback in support of ensuring that privacy protections and Charter rights be of paramount concern, that appropriate restrictions and safeguards be put in place and that legislative language needs to reflect:

- 1) Ethical oversight;
- 2) Procedural governance; and,
- 3) When all other investigative leads have been exhausted.

The Committee noted that the risk of not conducting familial searching in these exceptional cases interfered with the safety of Canadians and the integrity of the criminal justice system. It was also pointed out that the main purpose and use of the Convicted Offenders Index is to identify criminals and to solve crime. Therefore, enabling DNA familial searching of the NDDDB would ensure that we remain true to the index's primary purpose.

On June 15, 2021, Senator Carignan introduced Senate Bill S-236, An Act to amend the Criminal Code, the Criminal Records Act, the National Defence Act and the DNA Identification Act. It sought to expand the list of eligible DNA designated offences and made DNA sampling orders automatic upon conviction. S-236 also made references to familial DNA searching and communication of search results with Canadian investigative authorities and those of other countries. S-236 died on the order paper with the dissolution of Parliament and the calling of the election in August 2021.

Upon the resolution of Parliament, in December 2021, Senator Carignan re-introduced Senate Bill S-231, An Act to amend the Criminal Code, the Criminal Records Act, the National Defence Act and the DNA Identification Act. Familial searching is not addressed by any current legislation, but it is addressed by S-231 in section 18 by proposing to amend the DNA Identification Act by adding section 6.41(1). The wording of S-231 would allow familial searching to be employed in a Canadian and international investigation for any designated offence carrying a maximum sentence of fourteen years or more, some approximately 171 offences. Additionally, the amendment proposed by S-231 would expand familial searching beyond the Convicted Offenders Index to the

Victims Index, the Missing Persons Index, the Voluntary Donors Index and the Human Remains Index. It is important to note that although Bill S-231 proposes to amend the DNA Identification Act to include Familial Searching, it does not propose to include Investigative Genetic Genealogy Technique (IGGT). The Advisory Committee recognizes that any amendments to include Genetic Genealogy would require extensive modification of the legislation and would require significant discussion and further review.

FORENSIC GENETIC GENEALOGY

Forensic genetic genealogy refers to the use of public genealogy databases (e.g. GEDmatch, Family Tree etc.) to find relatives with the unknown DNA profiles that have been developed from evidence from a criminal or humanitarian investigation. Many major serious cold cases in the past year have been revisited to identify previously unknown perpetrators. The process involving commercial or publicly accessible genealogical databases has the potential to link family members to ongoing investigations and distant relatives by popularized commercial direct-to-consumer genetic testing. This is a new process and is often confused with familial searching. Although familial searching has been supported and recommended by the Advisory Committee as a forensic process that will enhance the NDDB, genetic genealogy has additional challenges that must be carefully reviewed.

The Advisory Committee has identified the potential use of genetic genealogy as a major advantage for case investigations but understands more discussion is needed regarding privacy and personal information. Genetic genealogy has many considerations that attract the interest of the Advisory Committee, end users, and the Canadian public and will be a source of major discussion in the upcoming meetings of the committee.

The NDDB Advisory Committee has had considerable interaction with representatives of the NDDB, individuals involved with drafting new legislative regulations, and employees from NCMPUR over the past two years. The attendance of Sergeant Shaun Foley with Contract and Indigenous Policing at the November 2020 NDDB Advisory Committee meeting introduced the Advisory Committee to the Investigative Genetic Genealogy Technology (IGGT) and the policy being developed by the RCMP. The policy would act as an accountability mechanism and ensure oversight to prevent the misuse of the technology. This would entail having a clear approval authority at senior management level as well as the possible use of a strategic advisory group who will assess whether there are pre-existing legal/investigative/evidentiary issues.

Following the initial discussion regarding the IGGT Policy, at the June 2021 committee meeting, the Committee members were given an opportunity to review, question, and provide comments on the draft IGGT Interim policy. The Committee identified the clauses where more information is

needed, and advice was offered. The Committee concluded with the overall recommendation to reduce the length and complexity of the document. The NDDB Advisory Committee has offered to review and discuss any further iterations of the policy and would welcome C&IP back at future AC meetings to provide updates on their program.

In October 2018, Commissioner Lucki outlined her priorities over the next five years, which are detailed in the Vision 150 strategy. A pillar of this vision is the modernization of operations, which the NDDB Advisory Committee greatly supports through the NDDB's examination of new technologies and science to benefit investigations and the pursuit of justice. The Commissioner noted her reliance on the NDDB Advisory Committee and to consider the delicate balance between technology, public interest and privacy through the various lenses they bring together.

Since its inception, the NDDB has played a critical role in solving crime and enhancing public safety in Canada. It continues to enhance its capabilities through modernization of technology and training of personnel, which ensured successful implementation of the NMPDP in March 2018. The Advisory Committee is confident the NDDB will continue to deliver a professional science program as it relates to the use of DNA for forensic and humanitarian purposes in Canada. The Advisory Committee appreciates the opportunity to review documents such as the Familial Searching Discussion Paper and acknowledges the dedication and highly specialized contribution of the NDDB staff in continuing to deliver a world-class DNA program.

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The Committee would like to acknowledge all employees of the NDDB, the Department of Justice, forensic and police partners as well as other contributors for their outstanding support and cooperation. It enhances the Advisory Committee's performance and helps inform our discussions and recommendations. The Committee would further like to acknowledge the RCMP Executive Committee Secretariat Services for their assistance and logistical support.



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